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Daily MCQs: 20-01-2024

1. Consider the following statements about the Thirty Meter Telescope.

1. It is being designed and developed by an international collaboration of research institutions and national governments.
2. Once it is built, it will become the world's largest ground-based telescope operating at optical and infrared wavelengths.

Which of the statements given above is/are correct?

- A. 1 only
- B. 2 only
- C. Both 1 and 2
- D. Neither 1 nor 2

2. Pradhan Mantri Fasal Bima Yojana covers which of the following crops?

1. Food crops
2. Oilseeds
3. Horticultural crops

Select the correct answer using the codes given below

- A. 1 and 2 only
- B. 1 and 3 only
- C. 2 and 3 only
- D. 1, 2 and 3

3. Which of the following statements is true with respect to the International Court of Justice (ICJ)?

- A. All members of the UN are automatically parties to the ICJ statute.
- B. The ICJ automatically gets jurisdiction over disputes involving the parties.
- C. The court has 10 judges who are elected to five-year terms.
- D. All the statements are incorrect

4. Lassa fever, an acute viral haemorrhagic fever, is primarily caused by

- A. Wild aquatic birds
- B. Australian bats
- C. Cattle
- D. Multimammate rats

5. Consider the following statements about Fast radio bursts (FRBs).

1. FRBs are extremely bright radio pulses from distant galaxies that last for only a few milliseconds.

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2. These events generate very high energy in a short period of time.

Which of the statements given above is/are correct?

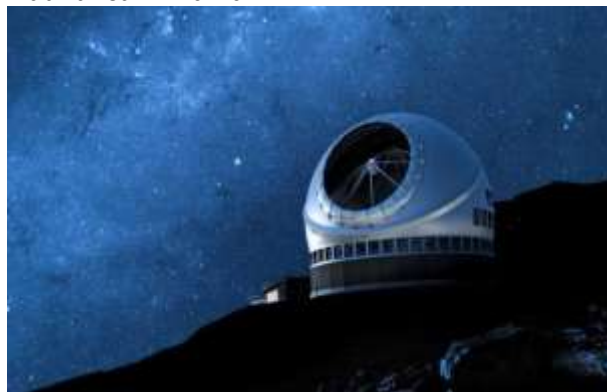
- A. 1 only
- B. 2 only
- C. Both 1 and 2
- D. Neither 1 nor 2

Solutions:

1. Answer: C

Explanation:

- The Thirty Meter Telescope is a new class of extremely large telescopes that will allow us to see deeper into space and observe cosmic objects with unprecedented sensitivity.
- It is being installed at Maunakea in **Hawaii**.



- With its 30 m prime mirror diameter, TMT will be three times as wide, with nine times more area than the largest currently existing visible-light telescope in the world.
- This will provide unparalleled resolution with TMT images more than 12 times sharper than those from the **Hubble Space Telescope**.
- **Statement 2 is correct:** Once it is built, the TMT will become the **world's largest ground-based telescope operating at optical and infrared wavelengths**, allowing astronomers to study the outer reaches of the universe and study distant stars and exoplanets in much greater detail than is currently possible.

Who is building TMT?

- The Thirty Meter Telescope is being designed and developed by the **TMT International Observatory LLC (TIO)**.
- **Statement 1 is correct:** The TIO is an international collaboration of research institutions and national governments including **the USA, Japan, China, India and Canada**.

Benefits of TMT

- It will allow astronomers to explore the mysterious period in the life of the universe when the first stars and galaxies were formed.
- One of its key uses will be the **study of exoplanets**, many of which have been detected in the last few years, and whether their atmospheres contain water vapour or methane — the signatures of possible life.

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- TMT will also observe the formation and development of the large-scale structures by looking at faint **distant galaxies** and the intergalactic medium.
- It has capability to detect and investigate **black holes** that reside in the center of many distant galaxies, as well as study in detail the black hole in the center of our own Milky Way.

2. Answer: D

Explanation:

- Pradhan Mantri Fasal Bima Yojana (PMFBY), launched in 2016, provides a **comprehensive insurance cover** against crop damage or loss arising out of unforeseen events thus helping in stabilising the income of the farmers and encouraging them for adoption of innovative practices.
- The scheme is administered by the **Ministry of Agriculture and Farmers' Welfare**.
- **Crops covered: Oilseed crops; all food crops; Annual commercial/horticultural crops.**
- **Premium:** There will be a uniform premium of 2% to be paid by farmers for all Kharif crops and 1.5% for all Rabi crops. For annual commercial and horticultural crops, the premium to be paid by farmers will be 5%.
- **Coverage:** It aims at covering the losses suffered by farmers such as pre-sowing losses, post-harvest losses due to cyclonic rains and losses due to unseasonal rainfall in India. It also covers losses due to localized calamities such as inundation, hailstorm and landslide risks.
- **Exclusions:** The losses arising out of war and nuclear risks, malicious damage and other preventable risks are not covered under this scheme.
- The scheme is implemented by **empanelled general insurance companies**. The funds for the scheme come from the **Krishi Kalyan Kosh**.
 - *Krishi Kalyan Kosh (farmers' welfare fund) is an emergency fund to support farmers when they incur losses due to low rates of produce, crop damage due to natural disasters, and to assist them when there is a delay in payment of minimum support price (MSP) by the Centre.*

3. Answer: A

Explanation:

- The International Court of Justice (ICJ) is the **principal judicial organ of the United Nations (UN)**. It was established in 1945 by the Charter of the United Nations and began work in 1946.
- The court is the **successor to the Permanent Court of International Justice (PCIJ)**, which was brought into being through, and by, the League of Nations, and which held its inaugural sitting at the Peace Palace in The Hague, Netherlands, in 1922.
- After World War II, the League of Nations and PCIJ were replaced by the **United Nations and ICJ respectively**. The PCIJ was formally dissolved in 1946, and its last president, Judge José Gustavo Guerrero of El Salvador, became the first president of the ICJ.
- The first case, which was brought by the UK against Albania and concerned incidents in the **Corfu channel** — the narrow strait of the Ionian Sea between the Greek island of Corfu and Albania on the European mainland — was submitted in 1947.

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Seat and role

- Like the PCIJ, the ICJ is based at the **Peace Palace in The Hague**. It is the **only one of the six principal organs of the UN that is not located in New York City**. (The other five organs are the General Assembly, the Security Council, the Economic and Social Council, the Trusteeship Council, and the Secretariat.)
- The ICJ's role is to settle, in accordance with international law, legal disputes submitted to it by States and to give advisory opinions on legal questions referred to it by authorized United Nations organs and specialized agencies. The court as a whole must represent the main forms of civilization and the principal legal systems of the world.
- **English and French** are the ICJ's official languages.
- **Statement A is correct & Statement B is incorrect: All members of the UN are automatically parties to the ICJ statute, but this does not automatically give the ICJ jurisdiction over disputes involving them.** The ICJ gets jurisdiction only if **both parties consent to it**.
- The judgment of the ICJ is **final and technically binding** on the parties to a case. There is **no provision of appeal**; it can at the most, be subject to **interpretation** or, upon the discovery of a new fact, **revision**.
- However, the ICJ has **no way to ensure compliance of its orders**, and its authority is derived from the willingness of countries to abide by them.

Judges of the court

- **Statement C is incorrect:** The ICJ has **15 judges who are elected to nine-year terms by the UN General Assembly and Security Council, which vote simultaneously but separately**. To be elected, a candidate must receive a majority of the votes in both bodies, a requirement that sometimes necessitates multiple rounds of voting.
- **A third of the court is elected every three years. Judges are eligible for re-election.**

4. Answer: D

Explanation:

What is Lassa fever and how does it spread?

- Lassa fever is an **animal-borne acute viral haemorrhagic fever caused by multimammate rats**. It was discovered in 1969 in **Nigeria's Lassa town**.
- The virus is **spread by rats** and is **primarily found in countries in West Africa** including Sierra Leone, Liberia, Guinea, and Nigeria where it is endemic.
- A person can become infected if they **come in contact with household items of food that is contaminated with the urine or feces of an infected rat**.
- It can also be **spread, though rarely, if a person comes in contact with a sick person's infected bodily fluids or through mucous membranes** such as the eyes, nose or the mouth. Person-to-person transmission is **more common in healthcare settings**.

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Symptoms

- Symptoms typically appear 1-3 weeks after exposure. Mild symptoms include slight fever, fatigue, weakness and headache and more serious symptoms include bleeding, difficulty breathing, vomiting, facial swelling, pain in the chest, back, and abdomen and shock.
- **Death can occur from two weeks of the onset of symptoms**, usually as a result of multi-organ failure.
- The **death rate associated with this disease is low**, at around one per cent. But the death rate is **higher for certain individuals**, such as pregnant women in their third trimester.

How is Lassa fever diagnosed and treated?

- Clinical diagnosis of Lassa fever is challenging because of the **similarity in symptoms with other diseases** like Ebola, malaria, and typhoid fever. The most common method used to detect Lassa fever is **enzyme-linked immunosorbent serologic assays (ELISA)**.
- **Antiviral drug ribavirin** is often used to treat Lassa fever although the usage is not a licensed treatment. Other procedures used are supportive care including hydration, oxygenation, and treatment of specific complications arising due to the disease.
- Preventive vaccines are currently under research and development.
- The best way to avoid getting infected is to **avoid contact with rats**. This means avoiding contact with rats not only in places where the disease is endemic, but also maintaining hygiene in other areas to prevent rats from entering the house, keeping food in rat-proof containers and laying down rat traps.

5. Answer: C

Explanation:

- **Statement 1 is correct:** Fast radio bursts (FRB) are **extremely bright radio pulses from distant galaxies that last for only a few milliseconds**.
- These brief and mysterious beacons have been spotted in various and distant parts of the universe, as well as in our own galaxy.
- **Statement 2 is correct:** FRBs are extraordinary events that **generate as much energy in a thousandth of a second as the Sun does in an entire year**.
- Locating where these blasts are coming from, and in particular, what galaxies they originate from, is important in determining what kinds of astronomical events trigger such intense flashes of energy.
- Nearly 1,000 FRBs have been identified since their first detection in 2007. Emerging from far away, some FRBs can either be a one-event flash or with definitive periodicity known as **repeater FRBs**.
- However, their **origins are unknown and their appearance is highly unpredictable**.
- For this, studies are currently on gaseous matter and stars from the nearby galaxies hosting FRBs.